

REMARKS

Claims 1 and 3-20 are pending. Claims 1, 13, 17 and 19 are independent claims. No claim amendments are included in this reply.

The examiner rejected claims 1 and 3-20 as failing to comply with the written description requirement. The examiner's argument is reproduced below for the convenience of the examiner:

7. Regarding independent claims 1, 13, 17 and 19, these claims contain limitations including pre-assigning concept labels based upon a grammar, and then generating a grammar based upon the concept labels, this 'generated1 grammar used subsequently to convert a user query to a query concept. The use of two different grammars, one used to pre-assign concept labels, and a different one used to convert a user-entered query to a query concept, is neither disclosed nor described in the specification.

Claims 1, 13, 17 and 19 recite "pre-assigning concept labels to documents contained in a collection, pre-assigning including parsing the documents automatically with a grammar," or similar language. This is fully supported in the specification as originally filed on at least page 2 lines 2-3, page 2, lines 17-18, and page 7, lines 21-22.

Claims 1, 13, 17 and 19 recite "generating a grammar around the concept labels," or similar language. This is fully supported in the specification as originally filed on at least page 4, lines 7-8.

Claims 1, 13, 17 and 19 recite "applying the generated grammar to a query to convert the query to a query concept," or similar language. This is fully supported in the specification as originally filed on at least page 4, line 8, and page 8, lines 9-10.

Claims 1, 13, 17 and 19 recite "mapping the query concept to a concept label," or similar language. This is fully supported in the specification as originally filed on at least page 4, lines 9-10.

Accordingly, claims 1, 3-20 are proper under 35 U.S.C. §112, first paragraph.

The examiner rejected claims 1, 3-20 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to point out and specifically claim the subject matter that applicant regards as the invention. More specifically, the examiner argues:

11. Regarding independent claims 1, 13, 17 and 19, these claims contain limitations including pre-assigning concept labels based upon a grammar, and then generating a grammar based upon the concept labels, this 'generated' grammar used subsequently to convert a user query to a query concept. The fact that concept labels are assigned based on a grammar, said concept labels then being utilized to generate a grammar, represents circular logic that renders the claims indefinite. If a grammar is used to assign concept labels to documents, then that same grammar would obviously be most suited for application to user queries in order to match query to documents. Labeling documents based on a grammar, and then using the resulting labels to generate a grammar, would necessarily result in the same or analogous grammar.

Applicant is somewhat bewildered. The independent claims recite the following, or similar language. In a first step, documents in a collection are parsed with a grammar and pre-assigned concept labels. In a second step, these concept labels are used to generate a grammar. Clearly, parsing the document with a grammar to pre-assign concept labels to documents in a collection and then generating a grammar around these concept labels is neither vague nor indefinite.

In a third step, the generated grammar is applied to a query to convert the query to a query concept. Here, the query has not been pre-assigned a concept label because the query is not part of the documents in the collection; pre-assigning concept labels to the documents in the collection is complete. Clearly, the query is not processed by the grammar that was used to pre-assign concept labels to the documents in the collection. Here the generated grammar is used to convert the query to a query concept. In a fourth step, the query concept is mapped to a concept label.

The grammar used to pre-assign concept labels to a collection is distinct and definite from the generated grammar used to convert a query to a query concept. There is nothing vague or indefinite here. There is no circular logic that can cause confusion, only step-by-step logic providing clarity. Accordingly, claims 1, 13, 17 and 19 are proper under 35 U.S.C. 112, second paragraph.

The examiner continues to use Wical to reject claims 1, 3, 4, 8-10 and 13-20 as having been anticipated.

Applicant respectfully disagrees and requests reexamination and reconsideration in view of the following remarks.

Wical is all about identifying categories and documents to be searched:

FIG. 1 is a block diagram illustrating one embodiment for the search and retrieval system of the present invention. In general, the search and retrieval system 100 receives, as input, user queries, and generates, as output, search results which, depending upon the mode of operation, identifies categories and documents. The search and retrieval system 100 is cataloged with one or more documents, labeled documents 130 on FIG. 1. (Wical, col. 5, lines 28-35)

Wical is all about themes and theme vectors of documents to be searched:

...the search and retrieval system 100 operates in conjunction with a content processing system 110. In general, the content processing system 110 analyzes the thematic, contextual, and stylistic aspects of the documents 130, and generates a document theme vector 160. The document theme vector 160 identifies themes for each individual document, as well as a theme strength corresponding to each theme. In addition to identifying document themes, the content processing system 110 attempts to classify each theme. Specifically, the content processing system 110 uses a classification criteria, which in one embodiment includes categories arranged in a hierarchical structure, to classify document themes in one or more categories. The classifications for document themes are identified in the document theme vector 160. As discussed more fully below, the document theme vector 160 is used to process user input queries. (Wical, col. 5, lines 42-58)

Wical uses a knowledge base that maintains a hierarchy:

the knowledge base 155 includes a hierarchy of categories and terminology, based on the arrangement of categories in the knowledge catalog 150, augmented to include contextual information (e.g., associations) learned from processing the documents and manually noted by linguists. In one embodiment, the knowledge base 155, packaged as a commercial product, may contain classification and contextual information based on processing and/or compilation of thousands of documents. The search and retrieval system 100 permits a user to subsequently augment the classification and contextual information through content processing of the documents input by the user. (Wical, col. 6, lines 8-13)

Applicant's claims 1, 13, 17 and 19 recite "pre-assigning concept labels to documents contained in a collection, pre-assigning including parsing the documents automatically with a grammar," or similar language.

The examiner's argument is reproduced below:

a) pre-assigning concept labels to documents contained in a collection, pre-assigning including parsing the documents automatically with a grammar (see disclosure that the content processing system processes a plurality of documents to identify themes and classifies the documents in categories in the knowledge base; see also disclosure of theme vectors, col. 6, line 34 through col. 7, line 2; see also col. 8, lines 1-11; see also extensive disclosure of the content processing system, col. 27, line 14 through col. 29, line 30);

Yet Wical neither describes nor suggests this quoted claim feature. “(T)he content processing system 110 analyzes the thematic, contextual, and stylistic aspects of the documents 130, and generates a document theme vector 160. The document theme vector 160 identifies themes for each individual document, as well as a theme strength corresponding to each theme. In addition to identifying document themes, the content processing system 110 attempts to classify each theme.” (Wical, col. 5, lines 43-51) “...(T)he content processing system 110 uses a knowledge catalog 150 to identify categories for the document themes. For this embodiment, the knowledge catalog 150 contains categories, arranged in a hierarchy, that reflect a world view of knowledge.” (Wical, col. 5, lines 59-64) More specifically, Wical discloses:

...the content processing system 110 analyzes the document set 130 and generates the document theme vector 160. For this embodiment, the content processing system 110 includes a linguistic engine 700, a knowledge catalog processor 740, a theme vector processor 750, and a morphology section 770. The linguistic engine 700 receives, as input, the document set 130, and generates, as output, the structured output 710. The linguistic engine 700, which includes a grammar parser and a theme parser, processes the document set 130 by analyzing the grammatical or contextual aspects of each document, as well as analyzing the stylistic and thematic attributes of each document. Specifically, the linguistic engine 700 generates, as part of the structured output 710, contextual tags 720, thematic tags 730, and stylistic tags 735 that characterize each document. Furthermore, the linguistic engine extracts topics and content carrying words 737, through use of the thematic tags 730, for each sentence in the documents. (Wical, col. 27, lines 16-34)

As seen above, Wical uses a content processing system, which includes a linguistic engine 700, a knowledge catalog processor 740, a theme vector processor 750, and a morphology section, to generate document theme vectors. This is very different from pre-assigning concept labels to documents contained in a collection. “Document theme vectors identify the content of documents through themes as well as through classification of the documents in categories that reflects what the documents are primarily about.” (Wical, see Abstract) As anyone skilled in this art recognizes a “theme” refers to a topic of discourse or discussion, an implicit or recurrent idea. A common synonym for theme is “subject.” A “concept” refers to a general idea derived or inferred from specific instances or occurrences; something formed in the mind; a thought or notion. A common synonym for concept is “idea.” Accordingly, claims 1, 13, 17 and 19 are not anticipated by Wical.

Applicant's claims 1, 13, 17 and 19 recite "generating a grammar around the concept labels," or similar language. Wical neither describes nor suggests this quoted claim feature.

The examiner argues the following:

b) generating a grammar around the concept labels (see disclosure that the knowledge base, analogous to the claimed grammar and grammar rules, links terminology having, *inter alia*, a usage association, meaning that the association is based upon the actual usage of the terms in documents, thus rendering inherent the generation of the grammar/knowledge base, based upon the actual usage of terms in documents, col. 2, lines 45-48; see also col. 9, lines 44-46);

The examiner's argument is contrary to Wical's disclosure. The examiner seems to equate Wical's knowledge base with applicant's generated grammar around the concept labels that were pre-assigned to the documents in the collection. This analogy is flawed. Wical's knowledge base stores associations among terminology/categories that have a lexical, semantical or usage association. (Wical, see Abstract)

The factual knowledge base queries identify, in response to an input query, documents relevant to the input query through expansion of the query terms as well as through expansion of themes. The concept knowledge base query does not identify specific documents in response to a query, but specifies terminology that identifies the potential existence of documents in a particular area. (Wical, see Abstract)

The knowledge base 155 contains classification categories or topics, such as the knowledge catalog 150, augmented with additional terminology including cross references and links among terminology/categories. FIG. 4 illustrates an example portion of a knowledge base augmented to include additional terminology as well as cross references and links among categories and terms. (Wical, col. 11, lines 14-20)

The knowledge base 155 is augmented to include linking and cross referencing among categories for which a linguistic, semantic, or usage association has been identified. (Wical, col. 11, lines 36-38)

The knowledge base 155 may be characterized, in part, as a directed graph. The directed graph provides information about the linguistic, semantic, or usage relationships among categories and terminology. The "links" and "cross references" on the directed graph, which indicate the associations, is graphically depicted in FIG. 4 using lines and arrows. (Wical, col. 11, lines 56-62)

As clearly disclosed in Wical, the knowledge base is not applicant's grammar generated around concept labels. Wical may use a grammar to supplement a knowledge base, but no generation of a grammar is disclosed or suggested. At a minimum, a grammar is the study of how words and their component parts combine to form sentences; the study of structural

relationships in language or in a language, sometimes including pronunciation, meaning, and linguistic history; a system of inflections, syntax, and word formation of a language; a system of rules implicit in a language, viewed as a mechanism for generating all sentences possible in that language; a normative or prescriptive set of rules setting forth the current standard of usage for pedagogical or reference purposes. Accordingly, claims 1, 13, 17 and 19 are not anticipated by Wical.

The examiner continues use Wical and Braden-Harder to reject claims 5-7, 11 and 12 as having been obvious.

Applicant respectfully disagrees. Claim 1 recites "pre-assigning concept labels to documents contained in a collection, pre-assigning including parsing the documents automatically with a grammar." As discussed above with respect to the examiner's anticipation rejection, Wical fails to teach or suggest at least this quoted claim feature. Furthermore, claim 1 recites "generating a grammar around the concept labels." As also discussed above with respect to the examiner's anticipation rejection, Wical fails to teach or suggest at least this quoted claim feature. Braden-Harder fails to provide for the deficiencies of Wical.

Braden-Harder does not teach or suggest "pre-assigning concept labels to documents contained in a collection, pre-assigning including parsing the documents automatically with a grammar." Braden-Harder does not teach or suggest "generating a grammar around the concept labels." Braden-Harder is all about scoring and ranking documents in response to a user query:

Once these documents are downloaded, process 600 analyzes each such document to produce and locally store the corresponding logical form triples therefor. Thereafter, through comparing the logical form triples for the query against those for each document, process 600 scores each document that contains at least one matching logical form triple, then ranks these particular documents based on their scores, and finally instructs web browser 400 to present these particular documents, as symbolized by line 446, in ranked order by descending document score on a group-by-group basis to the user. (Braden-Harder, col. 11, lines 20-29)

No combination of Wical and Braden-Harder can teach or suggest either of these quoted claim 1 features. Accordingly, claim 1 is not obvious in view of Wical and Braden-Harder, whether taken separately or in combination. Claims 5-7, 11 and 12, depend upon, and add further limitations to, claim 1. Accordingly, claims 5-7, 11 and 12 are not obvious in view of Wical and Braden-Harder, whether taken separately or in combination.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Respectfully submitted,

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